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2 Enhancing learners' professional competence via Duolingo classroom

Billy Brick¹ and Tiziana Cervi-Wilson²

Abstract

Coventry University Institution Wide Language Programme (IWLP) offers beginners language learning modules to approximately 3,000 students. Each module is taught over 11 weeks for a total of one hour and 40 minutes and two of the weeks are used for in class tests, so tutors generally agree that students need to practise their skills outside the classroom in order to pass the module. One way of doing this was to use the language learning app, Duolingo, which helps students to gradually broaden their linguistic, professional competence, and digital fluency through increased learner autonomy. How effective this approach is, however, has never been measured. The project ran from January to April 2018 and explored whether a correlation exists between regular use of the app by IWLP learners at Common European Framework of Reference (CEFR) level A1 of French, German, Italian, Portuguese, and Spanish, and achieving a high formal coursework assessment mark. The views of both learners and tutors of their experiences of using the software, and the tutor tools provided by Duolingo Schools, will also be canvassed. A virtual classroom was set up within Duolingo Schools for each participating cohort of students and they were encouraged to use the app on a regular basis. The tutor tools allowed the monitoring of how many days learners were active, how many lessons they completed, how many courses they completed, and how many points they were awarded while using Duolingo. These statistics were compared with

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the overall formal assessment grades on modules and further data was collected at the end of the project from a representative sample of learners (182) and tutors (ten) to establish whether the software influenced module marks.

Keywords: Duolingo, software, language learning, IWLP, CEFR A1.

1. Introduction

Language learning is increasingly taking place in a variety of formal and informal settings where mobile technologies and gamification have become more integrated into the language learning process. The vast number of opportunities to practise language learning outside the classroom provides instructors with the challenge of directing students towards resources most effective for their needs. One of these resources is Duolingo, a free language platform available both on PC and mobile. The site purports to teach nearly 2,000 vocabulary items for each language it offers and that studying via the app students are able to reach a vocabulary level of B1 on the CEFR if they complete all the activities available.

Duolingo delivers its content via a series of translation exercises, multiple choice quizzes, flashcards, word-pairing, and translating unknown words through clicking on them. In 2015, Duolingo Schools was launched which allows tutors to create virtual classrooms where they can assign specific homework tasks and challenges to students and monitor their progress. Alternatively, students can be challenged to study whatever they want on the platform in order to accumulate a target number of Duolingo Experience (XP) points which are awarded for successfully completing tasks on the site.

The self-directed learning skills students need to succeed on Duolingo help to develop professional competences essential for success on the job market such as autonomy, responsibility, motivation, self-efficacy, management, reflection, and persistence.

To contextualise this study, it is essential to understand that all UK universities are measured on the first jobs that their students acquire after graduation and therefore the employability skills of the graduates have become one of the most fundamental priorities in higher education ([Routes into Languages, 2019](#)).

In response to this, Coventry University implemented several new strategies to emphasise and stress the importance of education for employability. One of these strategies involved incorporating the teaching of employability skills into IWLP ([Cervi-Wilson & Brick, 2016](#)). IWLPs typically cater for students who want to study a language alongside their main degree subject. Uniquely, Coventry University offers language modules to undergraduate students as part of a scheme called Add+Vantage.

Typically, there are 24 students in each class and each class lasts for one hour and 40 minutes in total. The classes run over 11 weeks during which two weeks are used for assessment, leaving only nine full weeks of teaching. Much of the first class is taken up explaining how the module and assessments are organised and explaining to learners the procedures they are obliged to adhere to. This reduces the amount of contact time even further. As a result of this, students are encouraged to deepen their learning by practising what they have learnt in the classroom using a variety of self-directed learning tools such as Duolingo. Analysing students' use of language learning apps is extremely beneficial for instructors to understand where and how students focus their efforts outside the classroom. This study aims to establish whether or not widespread use of Duolingo has an impact on students' in class test performance in their language learning modules.

There have been numerous studies about Duolingo ([Botero, Questier, & Zhu, 2018](#); [García, 2013](#); [Hermoso-Gómez, 2016](#); [Krashen, 2014](#); [Rosell-Aguilar, 2017](#); [Teske, 2017](#); to name but a few) all of which have been critical of the product in numerous ways due to its repetitive nature, behaviouristic approach, the audiolingual method it adheres to in part, and the lack of opportunity for speaking practice. Its use of unauthentic voices for listening practice has also been widely criticised ([Teske, 2017](#)).

Recent studies in Mobile Assisted Language Learning (MALL) literature (Chwo, Marek, & Wu, 2018) have revealed three common weaknesses. One is the discrepancy between how instructors think students use their devices and how they actually use them. The second relates to issues including motivation. This generally relates to the perceptions of students

“concerning the usefulness of the MALL technology and lessons, and their resulting level of engagement in the MALL assignments, lessons, or activities. The third surrounds the short duration of MALL studies and poor research design” (Chwo et al., 2018, p. 62).

This study allowed students complete freedom to use the platform for self-directed learning and students were motivated, to some extent, by the link to achieving success on their IWLP module. What the study could not address was the duration of time students engaged in with the platform due to the fact that their IWLP course only lasted 11 weeks. In terms of research design, both quantitative and qualitative data were collected in order to triangulate results.

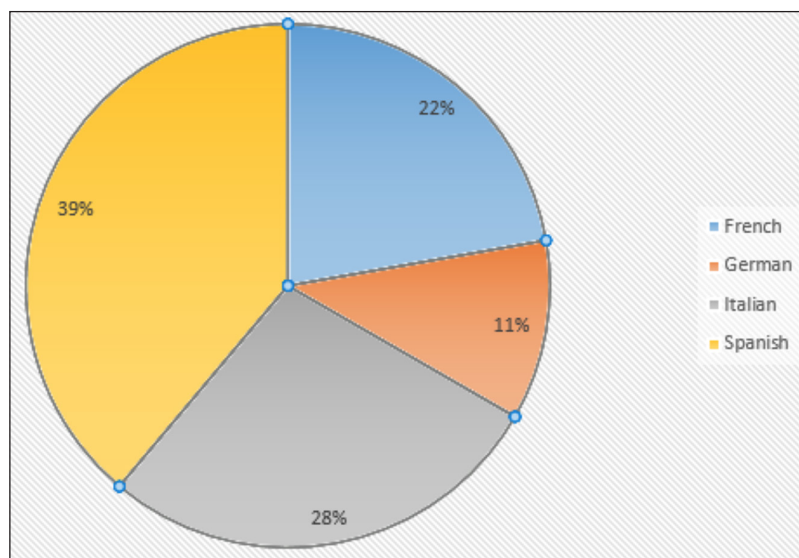
2. Methodology

The participants were IWLP students at Coventry University registered on degree courses across all disciplines and they are all expected to spend approximately ten hours per week on self-directed study. Students were introduced to the different features Duolingo offers and were asked to make an informed decision whether they wanted to be part of the project. Students were expected to monitor their own activity and interference by staff was kept to a minimum. There was no control group involved in this study due to ethical issues.

All staff teaching on European language Add+Vantage modules were invited to a meeting where the project was outlined to them and the process of setting up a classroom in Duolingo Schools, a separate platform which allows tutors to set homework and monitor student progress, was explained. Ethics forms were also distributed, but out of 35 members of staff teaching on the Add+Vantage

language provision only 11 tutors were recruited, representing 182 students studying French, German, Spanish, and Italian at CEFR A1 level (see [Figure 1](#) for breakdown).

Figure 1. Project participant language breakdown



Some staff were already using Duolingo Schools, while others were interested in implementing it in their teaching. Anecdotal evidence suggested that students who regularly used Duolingo to practise what they had learnt in class achieved higher scores than those who had not engaged with the app. Therefore, the project sought to establish whether there was in fact a correlation between extensive use of Duolingo and achieving higher grades on the two courseworks that all Add+Vantage students are required to take. The data was collected for a period of 11 weeks which is the same period of time they spent studying on the Add+Vantage programme. The tutor tools within Duolingo provided the necessary data to map against student performance. The data was generated in the form of XP points which students earned when they successfully completed tasks on the platform ([Munday, 2016](#); [Teske, 2017](#)). In addition to this, each

individual tutor set up small focus groups with their students to gather data regarding their experience of being involved in the project.

3. Results

At the end of the project, two sets of data were generated. The first one represented the marks that students had achieved by completing the required formal assessment for their module. The second set of data was generated by the Duolingo Schools platform and provided the exact number of XP points each participant had gathered during the project. The data was then merged to provide a graph correlating XP points against the overall coursework mark achieved by each participant. Details of these are provided in [Figure 2](#), [Figure 3](#), and [Figure 4](#). The data was divided into three sections based on the number of XP points collected. [Figure 2](#) shows the number of students who achieved up to 500 XP points, [Figure 3](#) shows 500-1,000 and [Figure 4](#) shows 1,000+. The quantitative results reveal some correlation between the number of XP points accumulated on Duolingo and the overall coursework mark achieved on the module.

[Figure 2](#) shows that the vast majority of participants achieved fewer than 500 XP points throughout the duration of the project. The graph does not reveal a strong correlation between using Duolingo and performing well on the courseworks. In fact, 15% of participants achieved a mark above 80% and 4% failed the module.

[Figure 3](#) shows that 13% of participants achieved between 500 and 1,000 XP points and of those 33% achieved a score above 80% on their coursework and all participants passed the module. However, 61% of this group scored between 40% and 60% on their coursework and only one failure was recorded.

The sample in [Figure 4](#) is numerically far smaller than the other two groups but shows that 43% of participants who accumulated over 1,000 XP points achieved a module mark of over 80%. However, 21% of this group achieved a module mark ranging from 40% to 60% and one failure was recorded.

Figure 2. Participants scoring less than 500 XP points

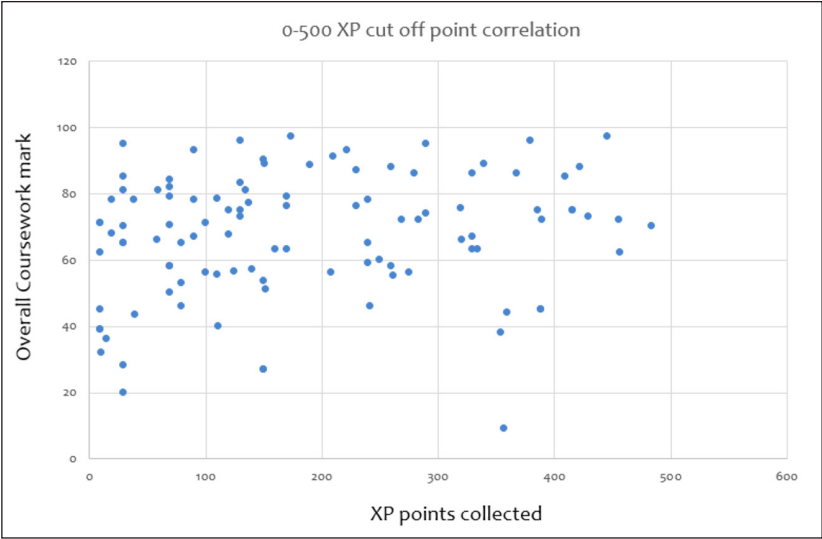


Figure 3. Participants scoring between 500 and 999 XP points

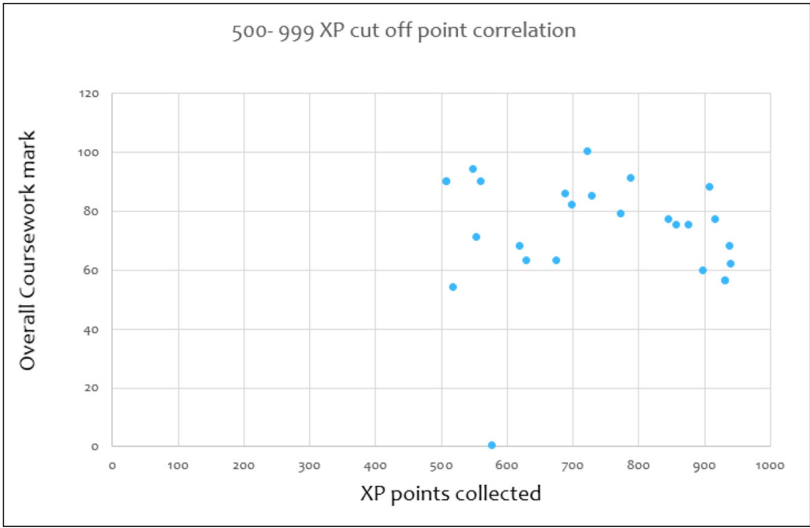
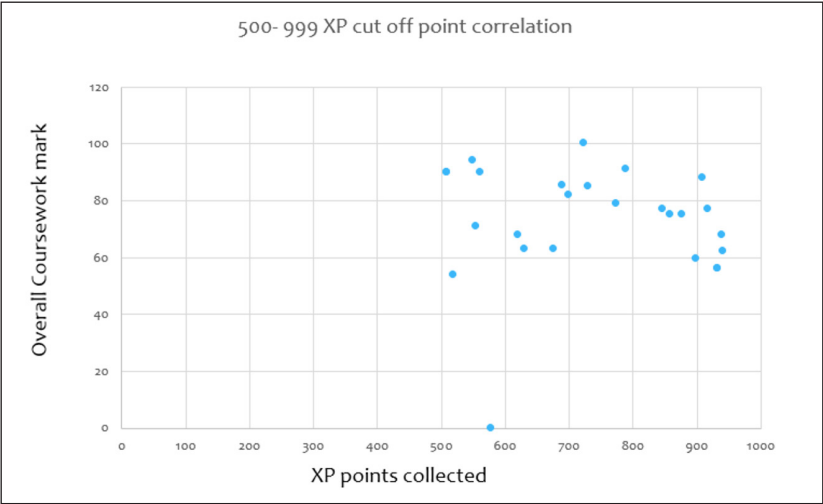


Figure 4. Participants scoring more than 999 XP points



Overall the statistics show a slight correlation between the accumulation of XP points on Duolingo and achieving over 80% in the module courseworks.

The illustrative qualitative data revealed some further trends. Three of the participants were negative about Duolingo, describing it as boring and repetitive and criticising the lack of authentic audio available in the app. However, most of the responses collected from the focus group sessions revealed a positive experience using Duolingo, praising numerous features including the email reminders, the regular testing, the variety of activities and, in particular, how effective they found it when used in conjunction with formal learning undertaken in a classroom setting.

The following statements are representative of the comments collected from students by the tutors and form the qualitative results of the research:

“Not many speaking activities and the voices aren’t authentic”
(Student A).

“It’s boring at times and a bit repetitive” (Student B).

“I had tried to use it to learn another language without any assistance, but I did not find it quite as useful then” (Student C).

“Duolingo sends regular reminders” (Student D).

“It’s a good opportunity to revise before a test” (Student E).

“There is so much variety. It gives us additional skills and experience” (Student F).

“In my experience Duolingo was quite useful, but more so when it was used in conjunction with a class or with some prior knowledge of the language” (Student G).

“When I used it for Italian, in combination with what I’d learned in class, I thought it was quite effective because it used active recall revision tactics, which I know help me learn best” (Student H).

“The fact that the things I had got wrong were tested again at the end of each ‘session’” (Student I).

“It was also very helpful to see where my strengths and weaknesses were with learning Italian” (Student J).

“Overall, I thought Duolingo was a useful tool for me in studying Italian. I don’t know if it helped me to improve my grade because I used it in combination with other tools, such as languagesonline, my notes from the class and the textbook. Some ‘sessions’ in Duolingo were obviously more relevant to the class content than others, so I don’t know if there was a correlation between my Duolingo use and my marks” (Student K).

4. Conclusions

The quantitative data revealed a slight correlation between obtaining over 100 Duolingo XP points over an 11-week period and achieving an above average mark in the module assessment. The qualitative data revealed differing attitudes amongst participants, but the majority were overall positive about the app when they used the tool in conjunction with regular attendance at a language learning class.

The study itself has its limitations partly due to the relatively small sample and the duration, common to many MALL studies as mentioned above (Chwo et al., 2018). Even though 456 students were approached to take part in the project, only 182 (40%) agreed to share their data with us. It was also impossible to isolate Duolingo as the only source of extra-curricular study. The data collected was only based on the accumulation of XP points, which only provided an overview of the amount of activities participants undertook, rather than a more focussed approach on specific tasks assigned by the tutor within the app itself. It was also apparent that some tutors encouraged the students to use the app on a regular basis more than others.

Finally, we can conclude that Duolingo may be used most effectively as a supplementary language learning tool to consolidate and deepen knowledge acquired in a classroom setting rather than as a sole source.

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Professional competencies in language learning and teaching

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